Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A nanocomposite optical plastic article, comprising:

a plastic host material having a temperature sensitive optical vector x; a core shell nanoparticulate material dispersed into said plastic host material, said core shell nanoparticulate material having a core defined by a nanoparticulate material having a temperature sensitive optical vector x_1, a shell defined by a coating material layer coated onto said core, said shell having a temperature sensitive optical vector x_2 and wherein said temperature sensitive optical vector x_1 is directionally opposed to said temperature sensitive optical vector x of said plastic host material, wherein said temperature sensitive optical vector x is defined as an index of refraction $n_{plastic\ host}$, said temperature sensitive optical vector x_1 is defined as an index of refraction n_{core}, and wherein said temperature sensitive optical vector x_2 is defined as an index of refraction of the shell n_{shell}, wherein $n_{shell} < n_{plastic\ host} < n_{core}$, wherein said core comprises a material selected from the group consisting of: ALON, aluminum oxide, beryllium oxide, cadmium sulfide, calcium carbonate, diamond, magnesium aluminate, magnesium fluoride, magnesium oxide, potassium titano phosphate, silica, tellurium oxide, yttrium oxide and zinc selenide.

2. (cancelled).

3. (original) The nanocomposite optical plastic article recited in claim 1 wherein said plastic host material comprises a material selected from the group consisting of: polymethylmethacrylate, polystyrene, polycarbonate, cyclic olefin polymer, polysulfone, polyethersulfone, diallyl glycolcarbonate, epoxides, thermoset polyesters, and blends and copolymers of those listed.

4. (original) The nanocomposite optical plastic article recited in claim 1 wherein said nanoparticulate material has a particle size of about 15nm.

5. (original) The nanocomposite optical plastic article recited in claim 1 wherein said plastic host material is polymethymethacrylate.

6. (original) The nanocomposite optical plastic article recited in claim 4 wherein said nanoparticulate material comprises silica nanoparticles.

7. (original) The nanocomposite optical plastic article recited in claim 4 wherein said nanoparticulate material comprises magnesium oxide nanoparticles.

8. (cancelled).

9. (cancelled).

10. (currently amended) The nanocomposite optical plastic article recited in claim 17 [[8]] wherein said zinc sulfide nanoparticles have a particle size of about 10nm, said zinc sulfide nanoparticles being provided with a 3nm thick coating layer of magnesium fluoride forming a core shell nanoparticulate material, said core shell nanoparticulate material being dispersed at 5 to 50 wt-% in a polycarbonate plastic host material.

11. (cancelled).

12. (original) The nanocomposite optical plastic article recited in claim 1 wherein said nanoparticulate material has a particle size less than about 40 nm.

13. (original) The nanocomposite optical plastic article recited in claim 1 wherein said nanoparticulate material has a particle size less than about 20 nm.

14. (original) The nanocomposite optical plastic article recited in claim 1 wherein said coating material layer has a temperature sensitive optical

vector x_2, wherein x_2 is directionally opposed to said temperature sensitive optical vector x of said plastic host material.

15. (new) The nanocomposite optical plastic article recited in claim 1 wherein said optical article is a lens.

16. (new) The nanocomposite optical plastic article recited in claim 1 wherein said optical article is an optical fiber.

17. (new) A nanocomposite optical plastic article, comprising:

a plastic host material having a temperature sensitive optical vector x; a core shell nanoparticulate material dispersed into said plastic host material, said core shell nanoparticulate material having a zinc sulfide core defined by a nanoparticulate material having a temperature sensitive optical vector x_1, a magnesium fluoride shell defined by a coating material layer coated onto said zinc sulfide core, said magnesium fluoride shell having a temperature sensitive optical vector x_2 and wherein said temperature sensitive optical vector x_1 is directionally opposed to said temperature sensitive optical vector x of said plastic host material, wherein said temperature sensitive optical vector x is defined as an index of refraction $n_{plastic\ host}$, said temperature sensitive optical vector x_1 is defined as an index of refraction n_{core}, and wherein said temperature sensitive optical vector x_2 is defined as an index of refraction of the magnesium fluoride shell n_{shell}, wherein $n_{shell} < n_{plastic\ host} < n_{core}$.

18. (new) The nanocomposite optical plastic article recited in claim 17 wherein said plastic host material comprises a material selected from the group consisting of: polymethylmethacrylate, polystyrene, polycarbonate, cyclic olefin polymer, polysulfone, polyethersulfone, diallyl glycolcarbonate, epoxides, thermoset polyesters, and blends and copolymers of those listed

19. (new) The nanocomposite optical plastic article recited in claim 17 wherein said nanoparticulate material has a particle size less than about 40 nm.

20. (new) The nanocomposite optical plastic article recited in claim 17 wherein said nanoparticulate material has a particle size less than about 20 nm.

21. (new) The nanocomposite optical plastic article recited in claim 17 wherein said optical article is a lens.

22. (new) The nanocomposite optical plastic article recited in claim 17 wherein said optical article is an optical fiber.